

Application Serial No. 10/537,863
Amendment filed December 1, 2008
Reply to final Office Action mailed September 18, 2008

In the Claims:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (currently amended) A method of forming a via hole by firing a laser beam in a resin layer including an inorganic filler, said method of forming a via hole characterized by including:

a first laser beam firing step of firing onto the resin layer including the inorganic filler a laser beam of a wavelength within the infrared region and not absorbed by the inorganic filler, at a position of said resin layer for forming a via hole so as to expel the resin and said inorganic filler and thereby form a hole in said resin layer; and

a second laser beam firing step of firing a laser beam of a wavelength within the ultraviolet region and capable of cleaving C-C bonds of the resin, focused at a position where said hole is formed to remove a modified layer of the resin remaining at the bottom of said hole and form a via hole with an underlying layer exposed at its bottom.

2. (original) A method of forming a via hole as set forth in claim 1, characterized by:
using a CO₂ laser in the first laser beam firing step and
using a UV-YAG laser in the second laser beam firing step.

3. (original) A method of forming a via hole as set forth in claim 1, characterized in that said resin layer includes at least one type of inorganic filler among barium titanate, titanium oxide, strontium titanate, and barium-strontium titanate.

4. (original) A method of forming a via hole as set forth in claim 1, characterized in that said resin layer includes an inorganic filler with a dielectric constant of 30 to 15000.

5. (original) A method of forming a via hole as set forth in claim 1, characterized in

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that said resin layer includes an inorganic filler having a band gap of 3 to 4 eV.

6. (currently amended) A method of forming a via hole by firing a laser beam in a resin layer including an inorganic filler, said method of forming a via hole comprising:

providing an infrared laser beam not absorbed by the inorganic filler;
firing an-the infrared laser beam at a position of said resin layer;
expelling the resin and the inorganic filler at the position;
forming a via hole in the resin layer at the position;
modifying a layer of the resin remaining at the bottom of the via hole;
providing an ultraviolet laser beam capable of cleaving C-C bonds of the resin;
firing an-the ultraviolet laser beam at the position;
removing the modified layer of the resin remaining at the bottom of the via hole; and
exposing an underlying layer at the bottom of the via hole by removing the modified layer of the resin.